

- Application No. 10/077,385
Amendment "D" dated April 29, 2005
Reply to Office Action mailed April 13, 2005

AMENDMENTS TO THE SPECIFICATION

In paragraphs [020], [020.1], [045], [047], [050], [051], and [056], please amend as reflected in the following marked-up version of the paragraphs:

[020] Figure 5 illustrates one embodiment of the manner by which the air flows through the computing device of Figure 2; and

[020.1] Figure 6 illustrates a cross-sectional side view of the computing device of Figure 2.

[045] Since fan 80 functions to draw air into and force air from within housing 20 of computing device 12, the placement of fan 80 and the remainder of processor assembly 62 have an effect upon the thermal, acoustical, and electromagnetic characteristics and properties of computing device 12. For instance, by shielding processor 86 and heat sink 88 with support structure 82, the propagation of electromagnetic energy to the exterior of computing device 12 is limited. Similarly, by placing fan 80 so that the fastest moving air passes over processor 86, a greater amount of heat energy is transferred to the air than would be possible if slower moving air passes processor 86 and heat sink 88. Additionally, as illustrated in ~~Figure 5~~ Figures 5 and 6, the particular location of processor assembly 62 is such that fan 80 draws the coolest air over smart card 54 and hard disk assembly 60 through vents 36 and 52. In this manner, smart card 54 and hard disk assembly 60, both of which generate large amounts of heat energy, are cooled with the coolest air, thereby substantially reducing the internal temperature of computing device 12.

Application No. 10/077,385
Amendment "D" dated April 29, 2005
Reply to Office Action mailed April 13, 2005

[047] The position of fan 80 within housing 20 can also be characterized in terms of the orientation of the axis of rotation with respect to the general plane of motion of the air moved by the fan. As shown in Figure 2 and as further described below in reference to Figures 3-56, air flows through apertures in the sidewalls of housing 20 and through housing 20 primarily, but not completely, in a plane that is perpendicular to the height h of housing 20. Although this is the case, other alternate embodiments of the present invention can have air flows that are in a plane parallel to the height h of housing 20.

[050] Returning to Figure 2, as mentioned above, disposed within the interior of carriage 24 is hard drive assembly 60. Hard drive assembly 60 provides storage for data deliverable to computing device 12 from the cable or satellite provider and or the Internet. Consequently, and with reference to Figures 2 and 6, hard drive assembly 60 includes two hard disks 70 and 72 and a bracket 74 to securely retain hard disks 70 and 72 within carriage 24. The bracket 74 and associated fasteners 76, 78 attach hard disks 70 and 72 to base 48 of carriage 24 (Figure 5) in such a manner to reduce the transfer and amplification of acoustical noise generated by hard disks 70 and 72. For instance, each fastener 76 and 78 can take the form of a screw with an associated washer or other appropriate means for coupling one element to another element, while limiting the transfer of acoustical noise. One skilled in the art, in light of the teaching contained herein, can identify various other structures capable of performing the function associated with the means for coupling one element to another element.4 and subsequently housing 20.

[051] —

- Application No. 10/077,385
Amendment "D" dated April 29, 2005
Reply to Office Action mailed April 13, 2005

[056] As discussed, the particular location of the various different assemblies and components of computing device 12 can vary one or more of the thermal, acoustical, and electromagnetic properties and/or characteristics of computing device 12. Depending on the particular environment where computing device 12 is to be used, computing device 12 can be configured to maintain the internal components at a desired temperature, generate different levels and frequencies of audible and inaudible noise, and/or limit, to varying degrees, the electromagnetic interference affects upon electrical devices and components situated adjacent to or contacting computing device 12. Illustrated in Figures 3-5-6 is an exemplary air flow path through computing device 12 that attempts to accommodate and/or control one or more of the thermal, acoustical, and electromagnetic effects of computing device 12. Although discussion is made of one exemplary air flow, one skilled in the art can identify various other air flows that result in control of one or more of the thermal, acoustic, and/or electromagnetic energy properties or characteristics of the computing device.